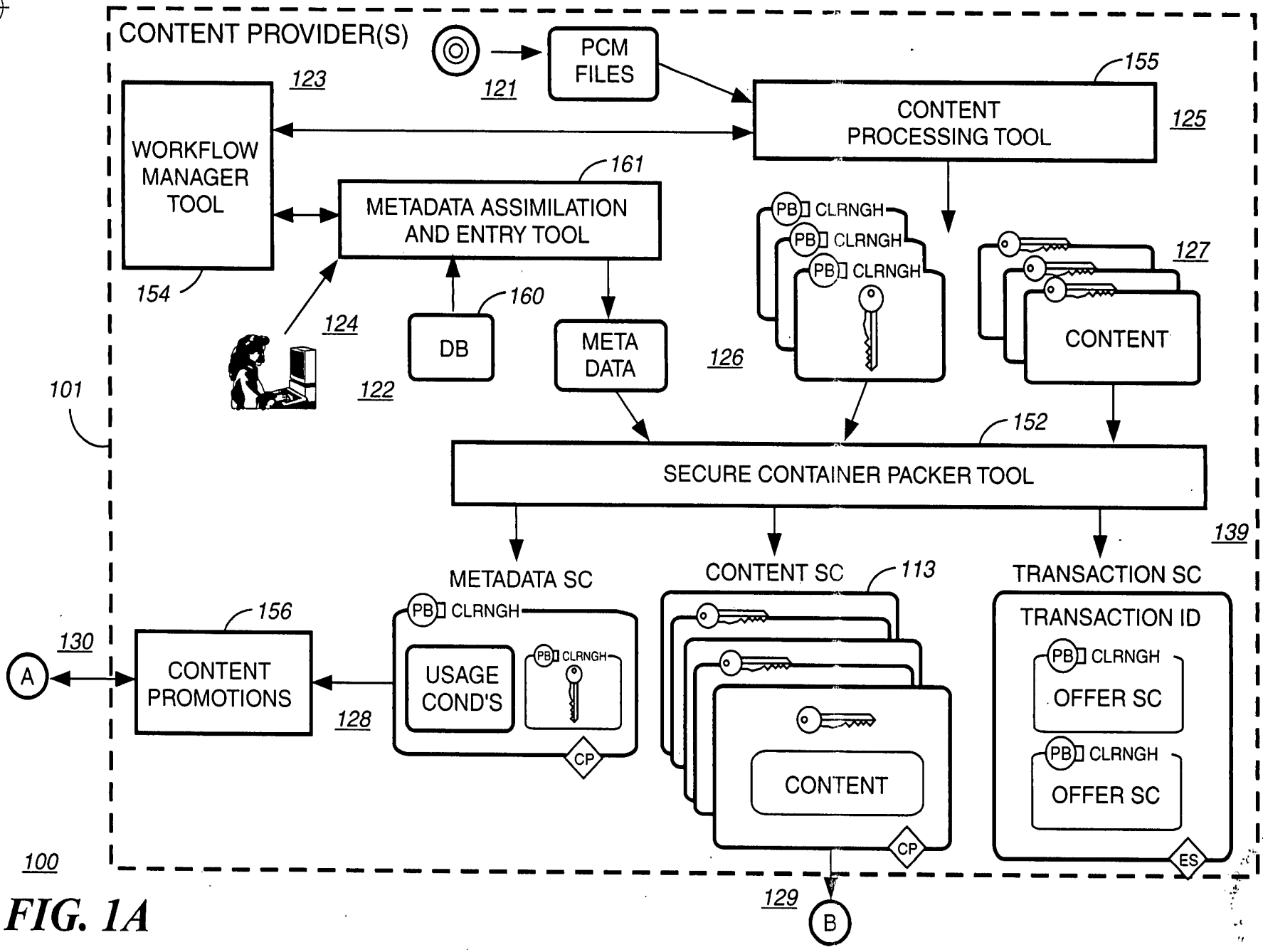

CONTENT PROVIDER(S)
123
121
PCM FILES
155
CONTENT PROCESSING TOOL
125
WORKFLOW MANAGER TOOL
154
161
METADATA ASSIMILATION AND ENTRY TOOL
160
DB
124
122
META DATA
126
PB CLRNGH
PB CLRNGH
PB CLRNGH
127
CONTENT
101
152
SECURE CONTAINER PACKER TOOL
139
METADATA SC
CONTENT SC
113
TRANSACTION SC
156
130
A
CONTENT PROMOTIONS
128
PB CLRNGH
USAGE COND'S
PB CLRNGH
CP
CONTENT
CP
TRANSACTION ID
PB CLRNGH
OFFER SC
PB CLRNGH
OFFER SC
ES
100
129
B

FIG. 1A

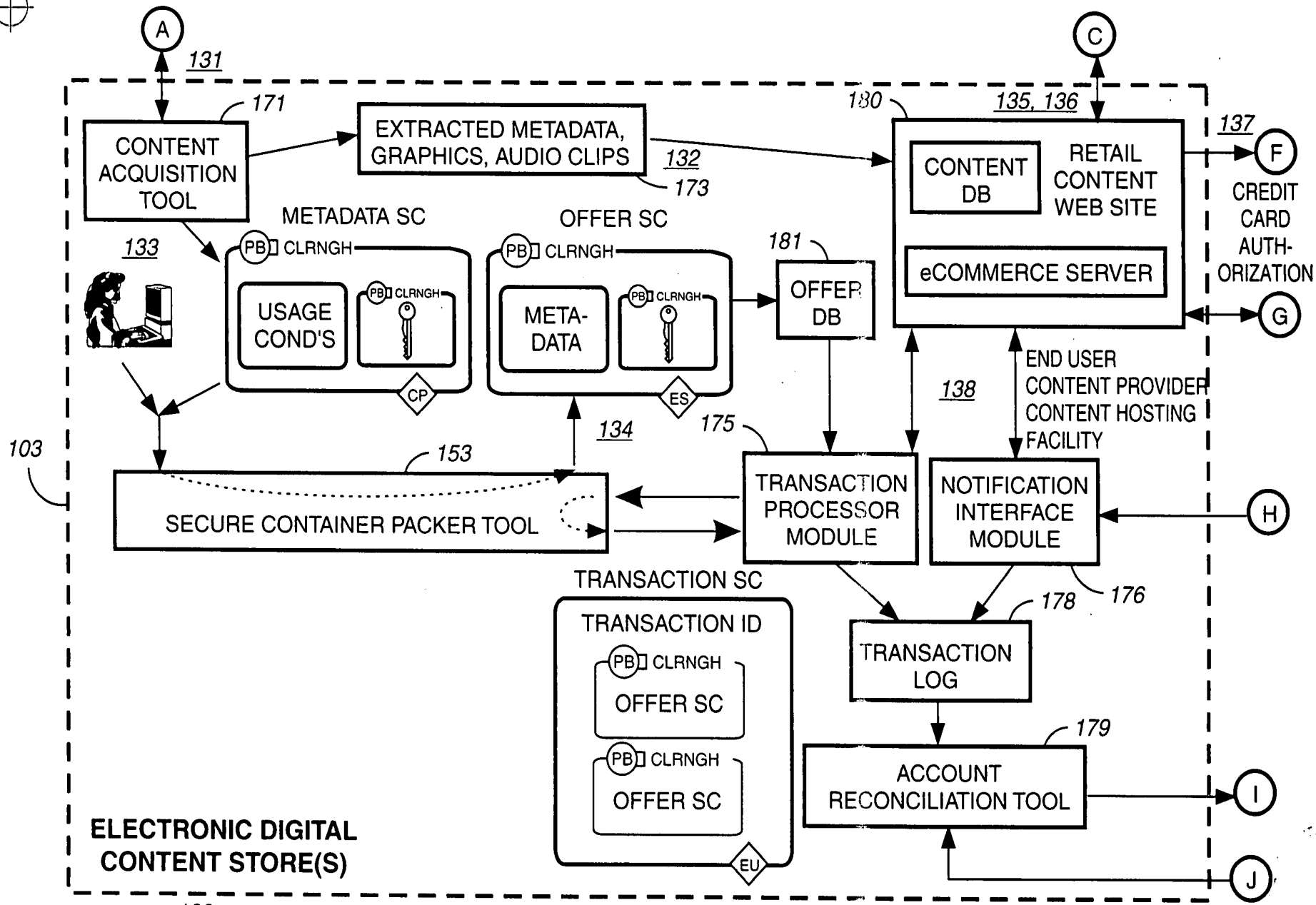

A
131
171
CONTENT ACQUISITION TOOL
EXTRACTED METADATA, GRAPHICS, AUDIO CLIPS
132
173
C
180
135, 136
CONTENT DB
RETAIL CONTENT WEB SITE
eCOMMERCE SERVER
137
F
CREDIT CARD AUTH-ORIZATION
G
133
METADATA SC
PB CLRNGH
USAGE COND'S
PB CLRNGH
CP
OFFER SC
PB CLRNGH
META-DATA
PB CLRNGH
ES
181
OFFER DB
138
END USER
CONTENT PROVIDER
CONTENT HOSTING
FACILITY
103
134
175
153
SECURE CONTAINER PACKER TOOL
TRANSACTION PROCESSOR MODULE
NOTIFICATION INTERFACE MODULE
H
TRANSACTION SC
TRANSACTION ID
PB CLRNGH
OFFER SC
PB CLRNGH
OFFER SC
EU
178
176
TRANSACTION LOG
179
ACCOUNT RECONCILIATION TOOL
I
J
ELECTRONIC DIGITAL CONTENT STORE(S)

FIG. 1B 100

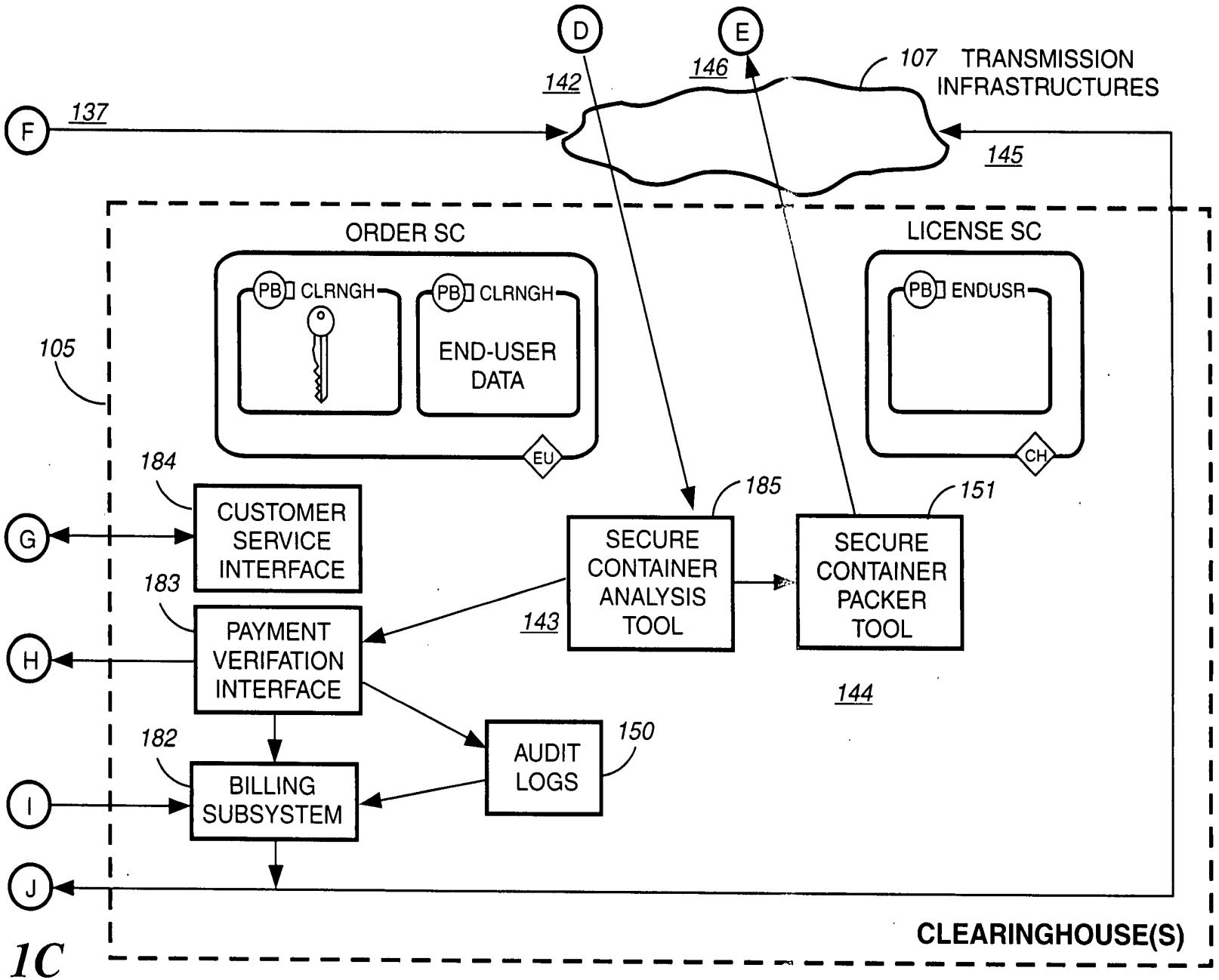
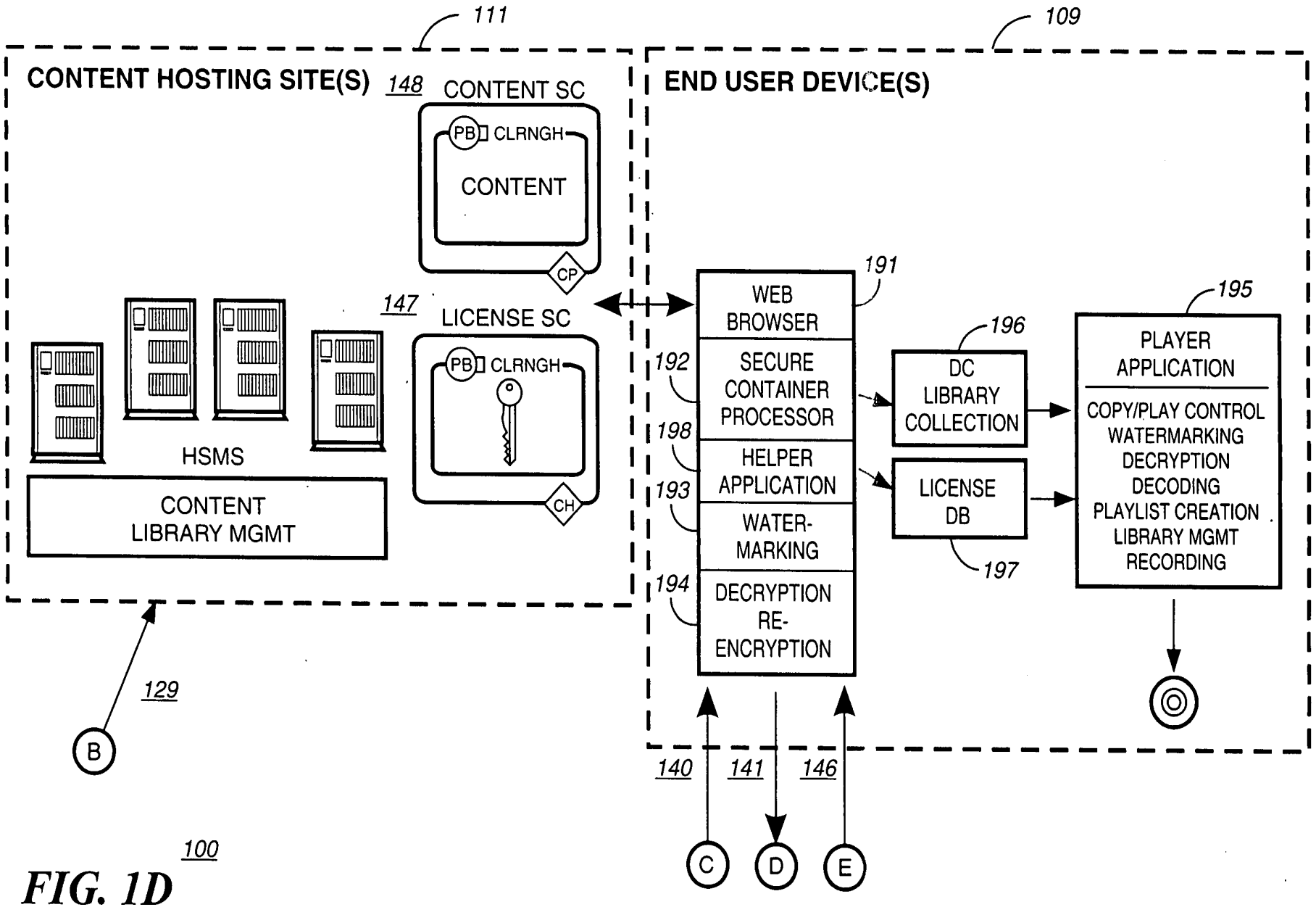

D
E
142
146
107 TRANSMISSION INFRASTRUCTURES
F
137
145
ORDER SC
LICENSE SC
PB CLRNGH
PB CLRNGH
END-USER DATA
EU
PB ENDUSR
CH
105
184
185
151
G
CUSTOMER SERVICE INTERFACE
SECURE CONTAINER ANALYSIS TOOL
SECURE CONTAINER PACKER TOOL
183
143
H
PAYMENT VERIFATION INTERFACE
144
182
150
AUDIT LOGS
I
BILLING SUBSYSTEM
J
100
CLEARINGHOUSE(S)

FIG. 1C

20CTTO"h9560660



100

FIG. 1D

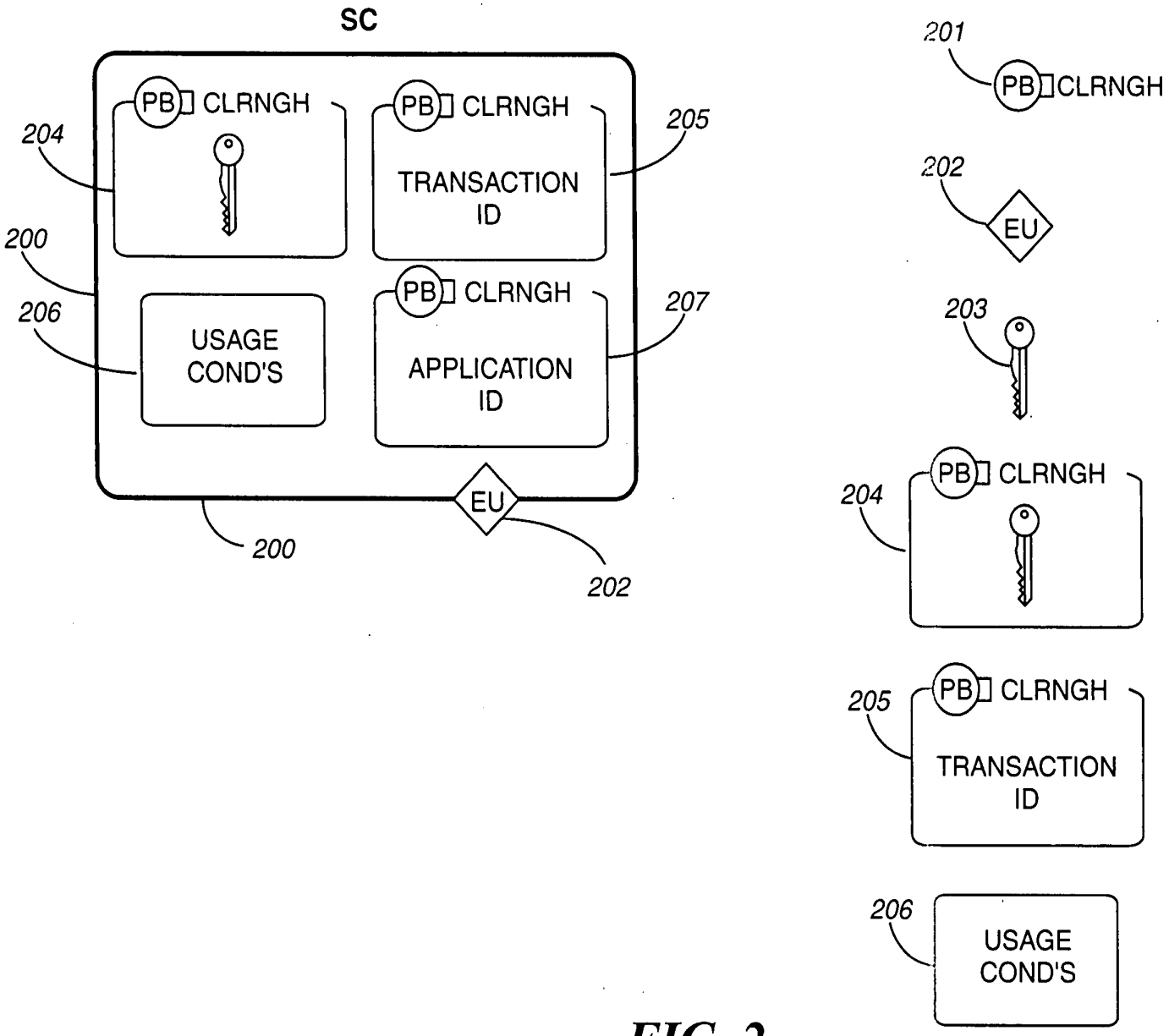

SC
PB CLRNGH
204
PB CLRNGH
TRANSACTION ID
205
200
206
USAGE COND'S
PB CLRNGH
APPLICATION ID
207
EU
200
202
201
PB CLRNGH
202
EU
203
204
PB CLRNGH
205
PB CLRNGH
TRANSACTION ID
206
USAGE COND'S

FIG. 2

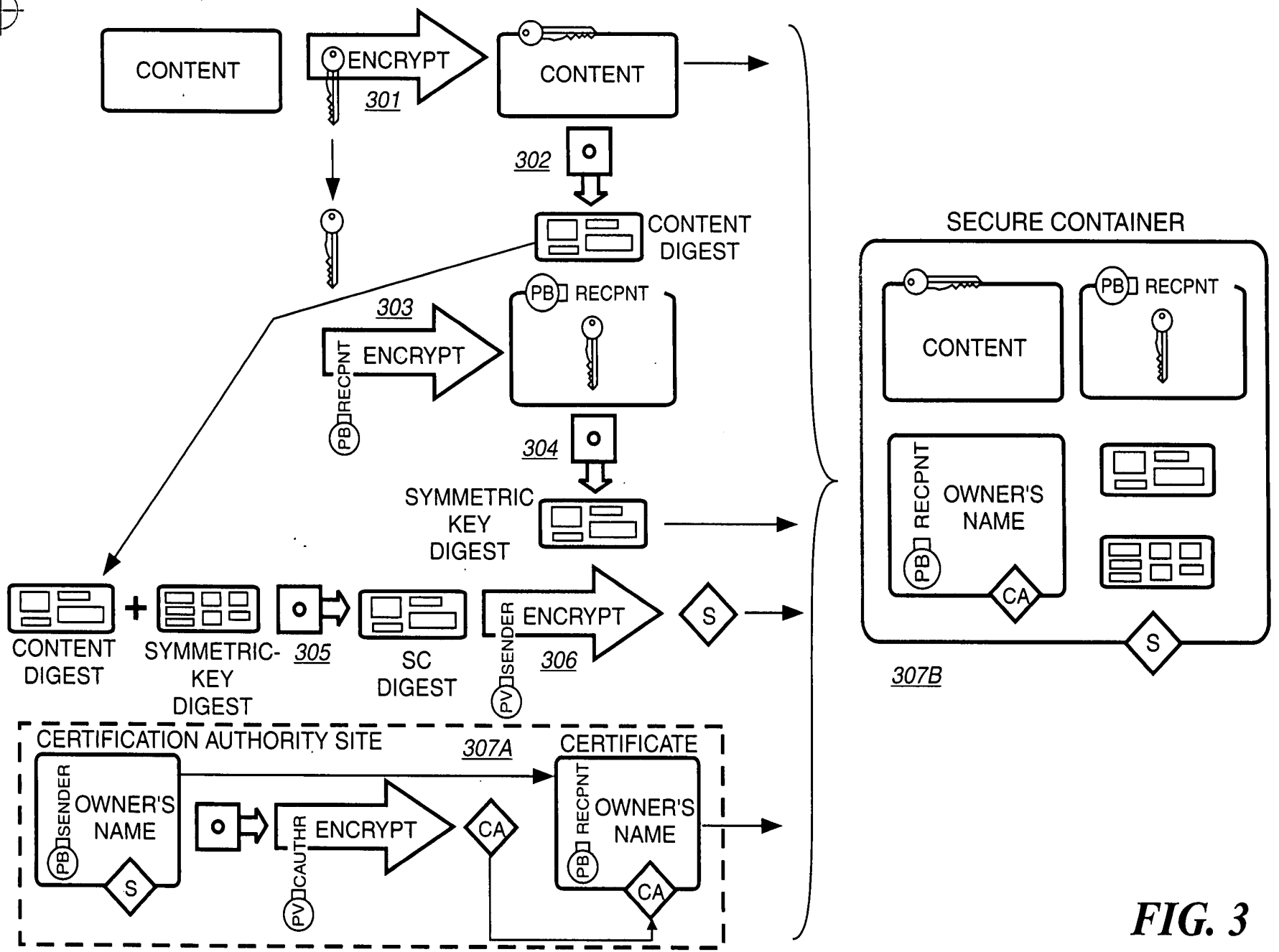

CONTENT
ENCRYPT
301
CONTENT
302
CONTENT DIGEST
303
ENCRYPT
PB RECPNT
PB RECPNT
304
SYMMETRIC KEY DIGEST
CONTENT DIGEST
SYMMETRIC-KEY DIGEST
305
SC DIGEST
ENCRYPT
PV SENDER
306
S
CERTIFICATION AUTHORITY SITE
307A
PB SENDER
OWNER'S NAME
S
PV CAUTHR
ENCRYPT
CA
CERTIFICATE
PB RECPNT
OWNER'S NAME
CA
SECURE CONTAINER
CONTENT
PB RECPNT
PB RECPNT
OWNER'S NAME
CA
S
307B

FIG. 3

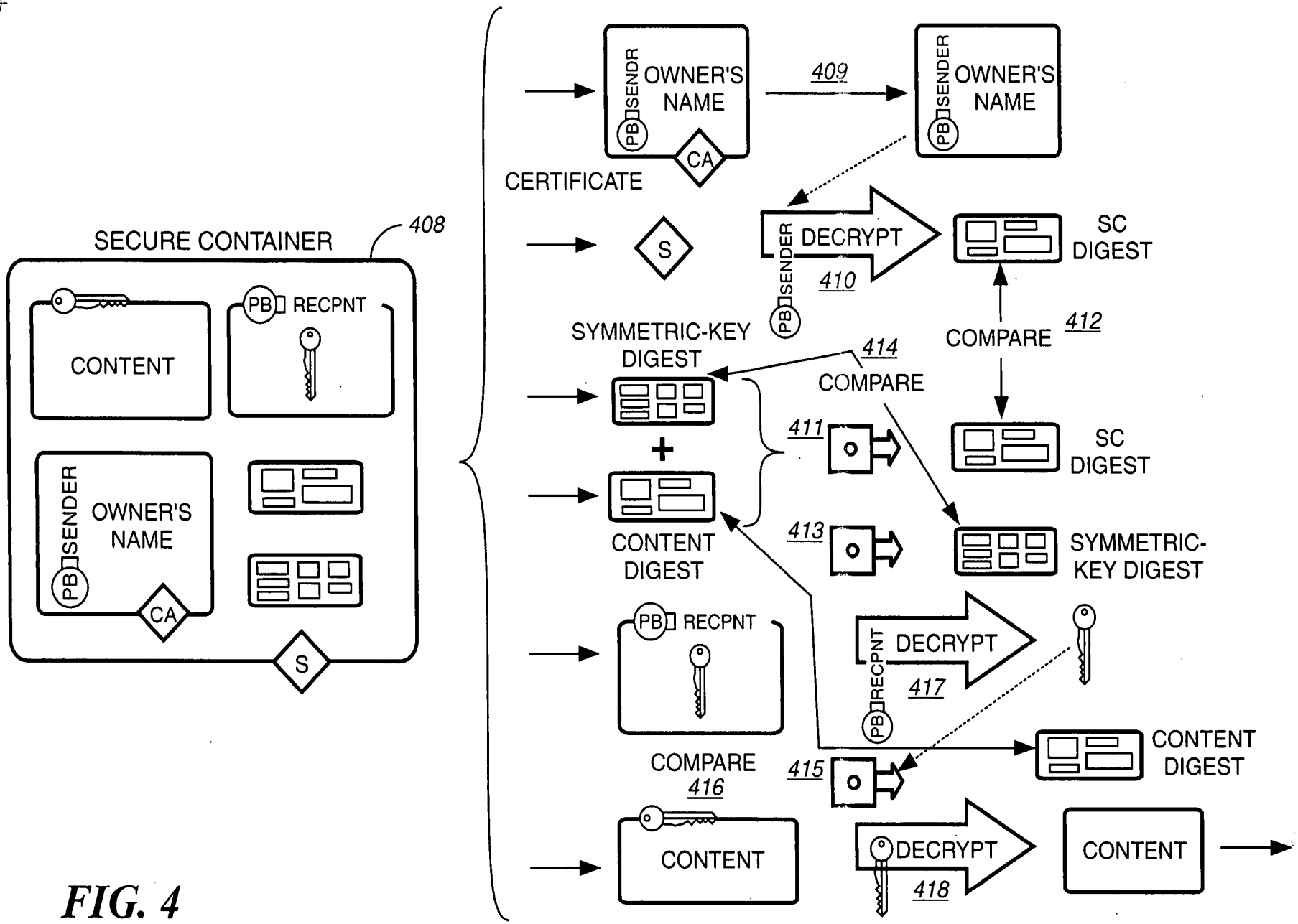

SECURE CONTAINER
408
CONTENT
PB RECPNT
PB SENDR OWNER'S NAME
CA
S
CERTIFICATE
PB SENDR OWNER'S NAME
CA
409
PB SENDER OWNER'S NAME
S
PB SENDER DECRYPT
410
SC DIGEST
COMPARE
412
SYMMETRIC-KEY DIGEST
414
COMPARE
411
SC DIGEST
+
CONTENT DIGEST
413
SYMMETRIC-KEY DIGEST
PB RECPNT
PB RECPNT DECRYPT
417
CONTENT DIGEST
COMPARE
416
415
CONTENT
DECRYPT
418
CONTENT

FIG. 4

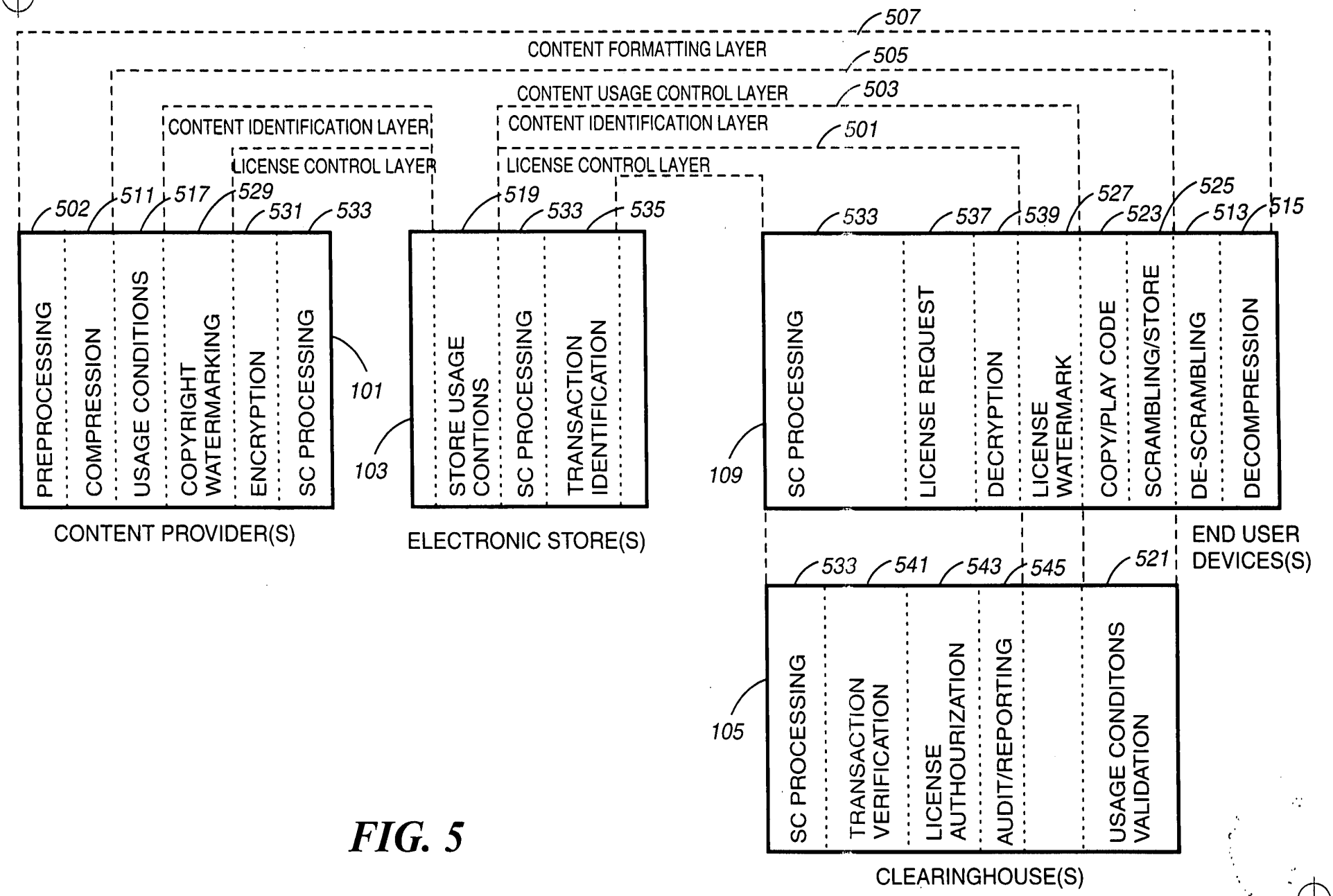

507
CONTENT FORMATTING LAYER
505
CONTENT USAGE CONTROL LAYER
503
CONTENT IDENTIFICATION LAYER
501
LICENSE CONTROL LAYER
CONTENT IDENTIFICATION LAYER
LICENSE CONTROL LAYER
502
511
517
529
531
533
519
533
535
533
537
539
527
523
525
513
515
PREPROCESSING
COMPRESSION
USAGE CONDITIONS
COPYRIGHT WATERMARKING
ENCRYPTION
SC PROCESSING
101
STORE USAGE CONTIONS
SC PROCESSING
TRANSACTION IDENTIFICATION
103
109
SC PROCESSING
LICENSE REQUEST
DECRYPTION
LICENSE WATERMARK
COPY/PLAY CODE
SCRAMBLING/STORE
DE-SCRAMBLING
DECOMPRESSION
CONTENT PROVIDER(S)
ELECTRONIC STORE(S)
END USER DEVICES(S)
533
541
543
545
521
105
SC PROCESSING
TRANSACTION VERIFICATION
LICENSE AUTHOURIZATION
AUDIT/REPORTING
USAGE CONDITONS VALIDATION
CLEARINGHOUSE(S)

FIG. 5

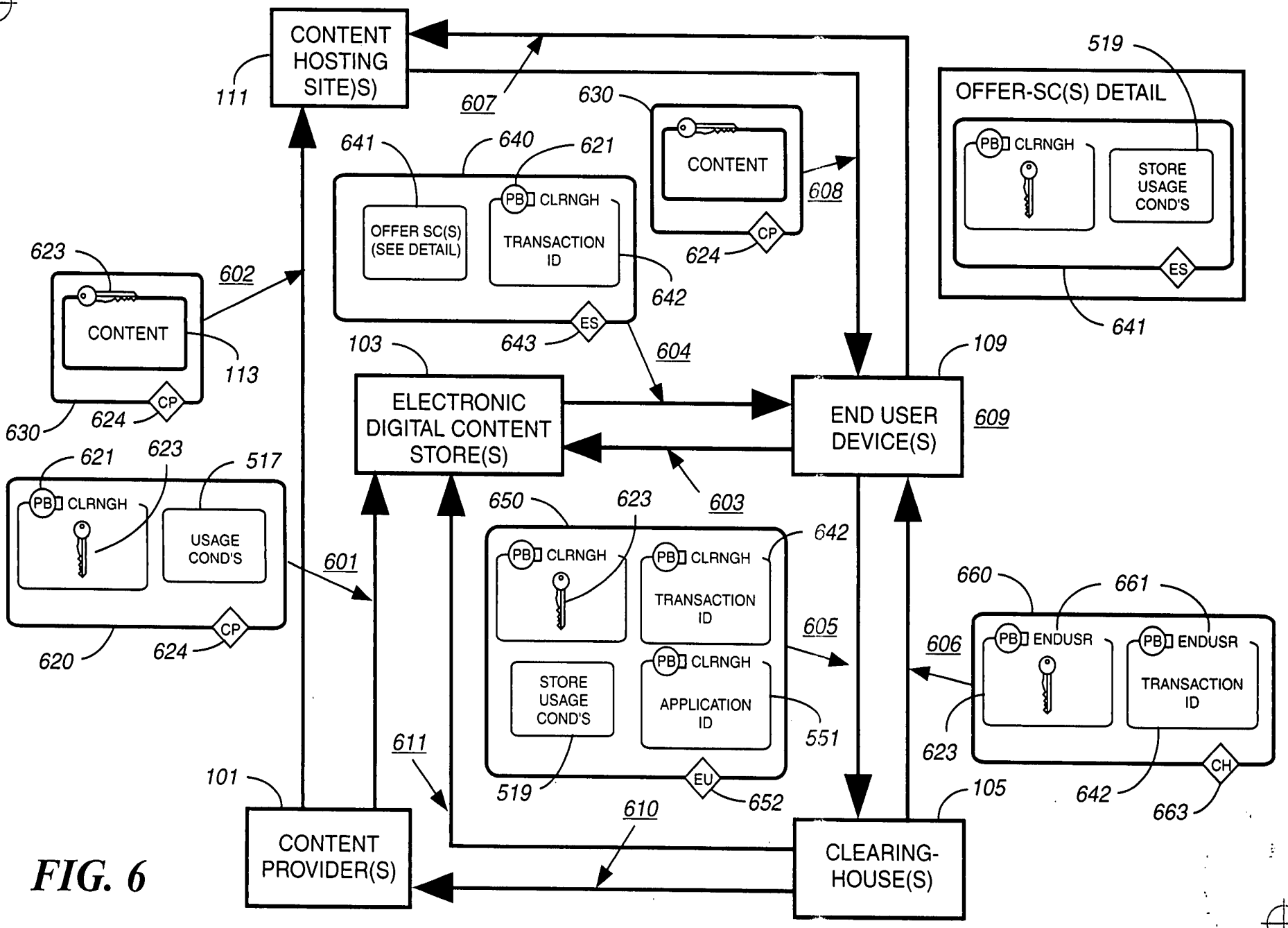
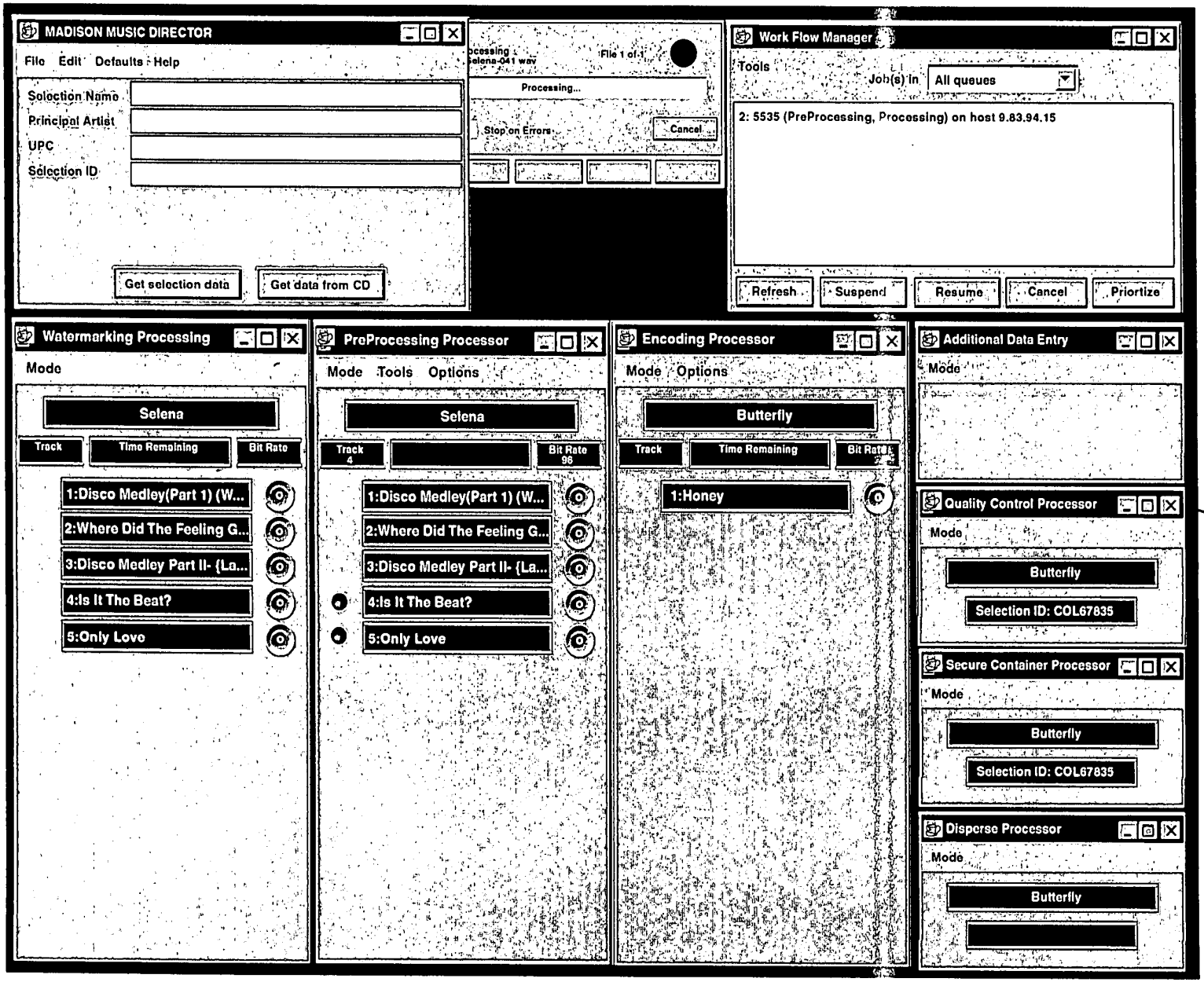

CONTENT HOSTING SITE)S)
111
607
519
OFFER-SC(S) DETAIL
PB CLRNGH
STORE USAGE COND'S
ES
641
630
CONTENT
608
CP
624
641
640
621
OFFER SC(S) (SEE DETAIL)
PB CLRNGH
TRANSACTION ID
642
ES
643
623
602
CONTENT
113
CP
624
630
103
604
ELECTRONIC DIGITAL CONTENT STORE(S)
END USER DEVICE(S)
109
609
603
621
623
517
PB CLRNGH
USAGE COND'S
601
CP
620
624
650
623
642
PB CLRNGH
PB CLRNGH
TRANSACTION ID
605
PB CLRNGH
STORE USAGE COND'S
APPLICATION ID
551
519
EU
652
660
661
606
PB ENDUSR
PB ENDUSR
TRANSACTION ID
623
642
CH
663
611
101
610
105
CONTENT PROVIDER(S)
CLEARING-HOUSE(S)

FIG. 6


MADISON MUSIC DIRECTOR
File Edit Defaults Help
Selection Name
Principal Artist
UPC
Selection ID
Get selection data
Get data from CD
Processing...
Stop on Errors
Cancel
Work Flow Manager
Tools
Job(s) In
All queues
2: 5535 (PreProcessing, Processing) on host 9.83.94.15
Refresh
Suspend
Resume
Cancel
Priortize
Watermarking Processing
Mode
Selena
Track
Time Remaining
Bit Rate
1:Disco Medley(Part 1) (W...
2:Where Did The Feeling G...
3:Disco Medley Part II- (La...
4:Is It The Beat?
5:Only Love
PreProcessing Processor
Mode Tools Options
Selena
Track 4
Bit Rate 96
1:Disco Medley(Part 1) (W...
2:Where Did The Feeling G...
3:Disco Medley Part II- (La...
4:Is It The Beat?
5:Only Love
Encoding Processor
Mode Options
Butterfly
Track
Time Remaining
Bit Rate
1:Honey
Additional Data Entry
Mode
Quality Control Processor
Mode
Butterfly
Selection ID: COL67835
Secure Container Processor
Mode
Butterfly
Selection ID: COL67835
Disperse Processor
Mode
Butterfly

700

FIG. 7

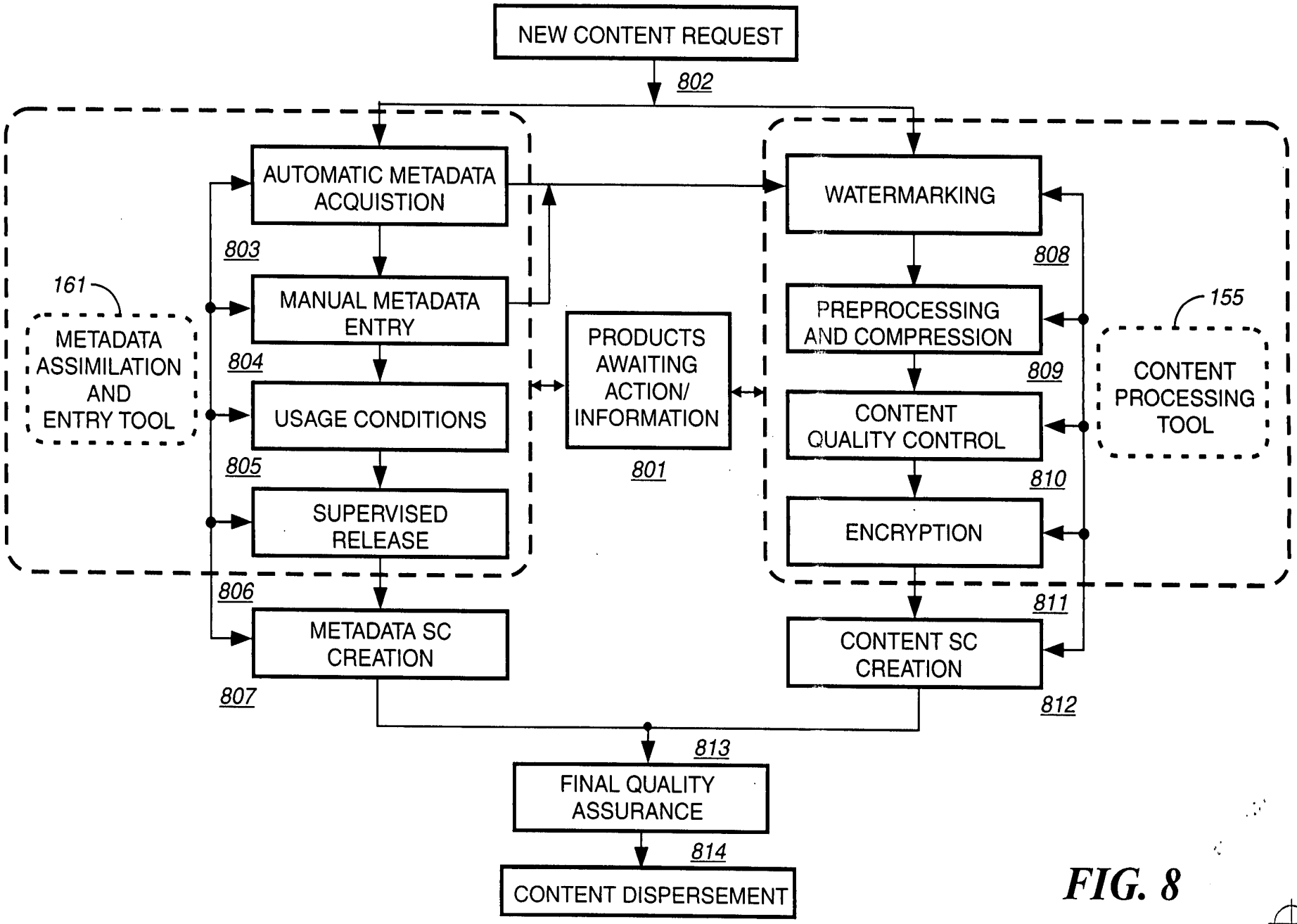

NEW CONTENT REQUEST
802
AUTOMATIC METADATA ACQUISTION
803
MANUAL METADATA ENTRY
804
USAGE CONDITIONS
805
SUPERVISED RELEASE
806
METADATA SC CREATION
807
161
METADATA ASSIMILATION AND ENTRY TOOL
PRODUCTS AWAITING ACTION/ INFORMATION
801
WATERMARKING
808
PREPROCESSING AND COMPRESSION
809
CONTENT QUALITY CONTROL
810
ENCRYPTION
811
CONTENT SC CREATION
812
155
CONTENT PROCESSING TOOL
813
FINAL QUALITY ASSURANCE
814
CONTENT DISPERSEMENT

FIG. 8

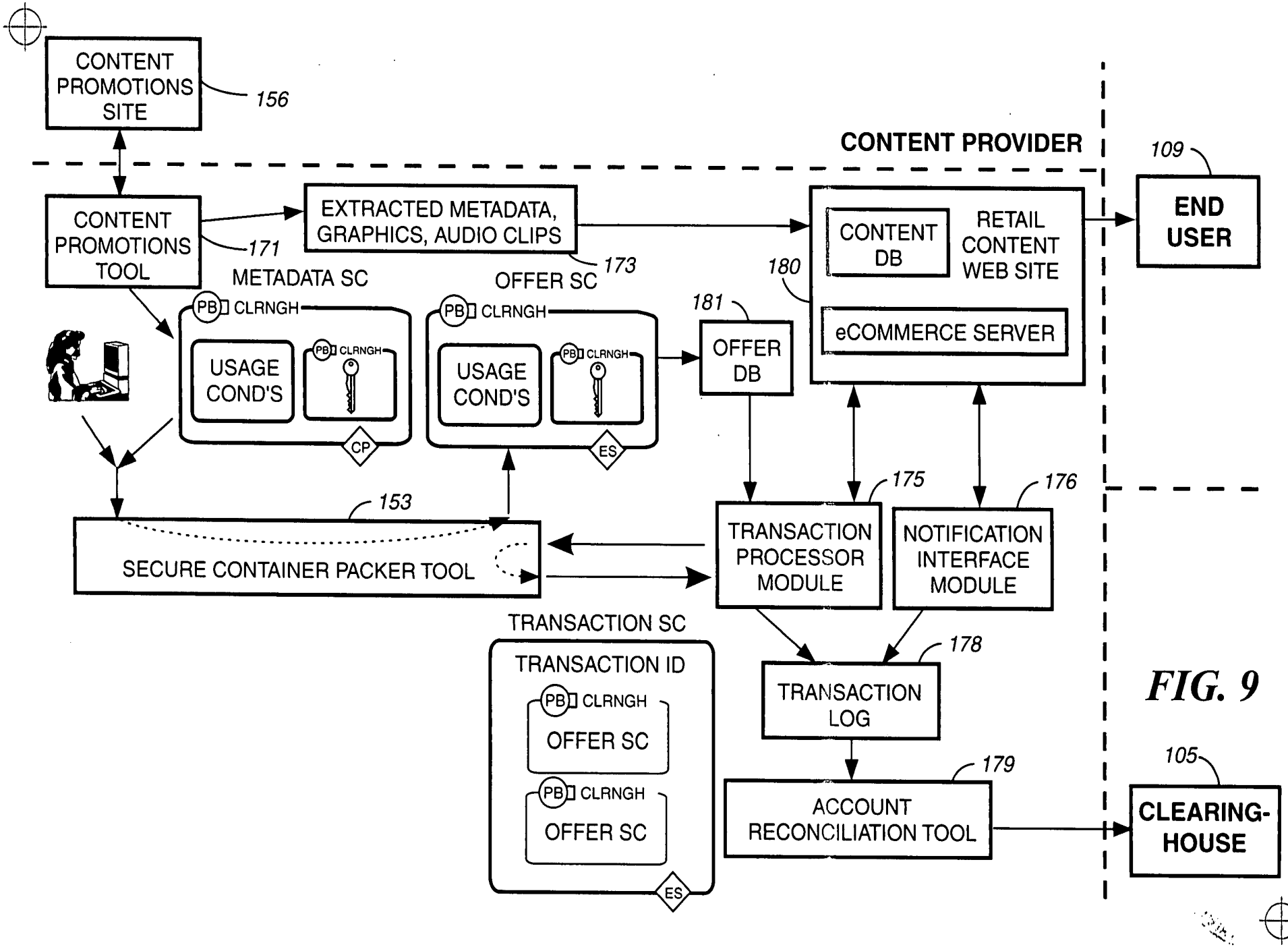

CONTENT PROMOTIONS SITE
156
CONTENT PROVIDER
109
END USER
CONTENT PROMOTIONS TOOL
171
EXTRACTED METADATA, GRAPHICS, AUDIO CLIPS
173
CONTENT DB
RETAIL CONTENT WEB SITE
180
eCOMMERCE SERVER
METADATA SC
OFFER SC
PB
CLRNGH
USAGE COND'S
CP
ES
181
OFFER DB
153
SECURE CONTAINER PACKER TOOL
175
TRANSACTION PROCESSOR MODULE
176
NOTIFICATION INTERFACE MODULE
TRANSACTION SC
TRANSACTION ID
178
TRANSACTION LOG
179
ACCOUNT RECONCILIATION TOOL
105
CLEARING-HOUSE

FIG. 9

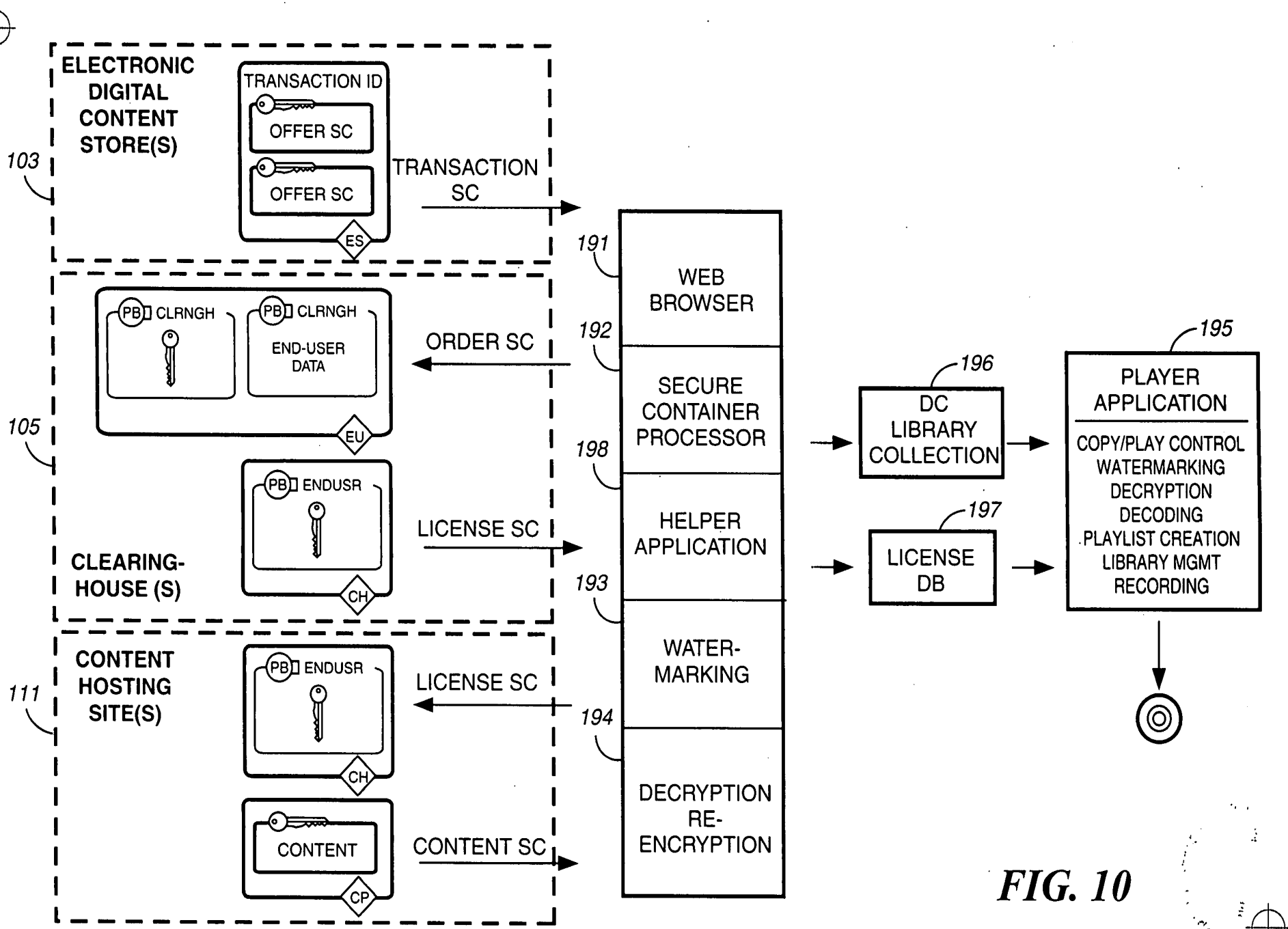

ELECTRONIC DIGITAL CONTENT STORE(S)
103
TRANSACTION ID
OFFER SC
OFFER SC
ES
TRANSACTION SC
PB CLRNGH
PB CLRNGH
END-USER DATA
EU
ORDER SC
105
PB ENDUSR
CH
LICENSE SC
CLEARING-HOUSE (S)
CONTENT HOSTING SITE(S)
111
PB ENDUSR
CH
LICENSE SC
CONTENT
CP
CONTENT SC
191
WEB BROWSER
192
SECURE CONTAINER PROCESSOR
198
HELPER APPLICATION
193
WATER-MARKING
194
DECRYPTION RE-ENCRYPTION
196
DC LIBRARY COLLECTION
197
LICENSE DB
195
PLAYER APPLICATION
COPY/PLAY CONTROL
WATERMARKING
DECRYPTION
DECODING
PLAYLIST CREATION
LIBRARY MGMT
RECORDING

FIG. 10

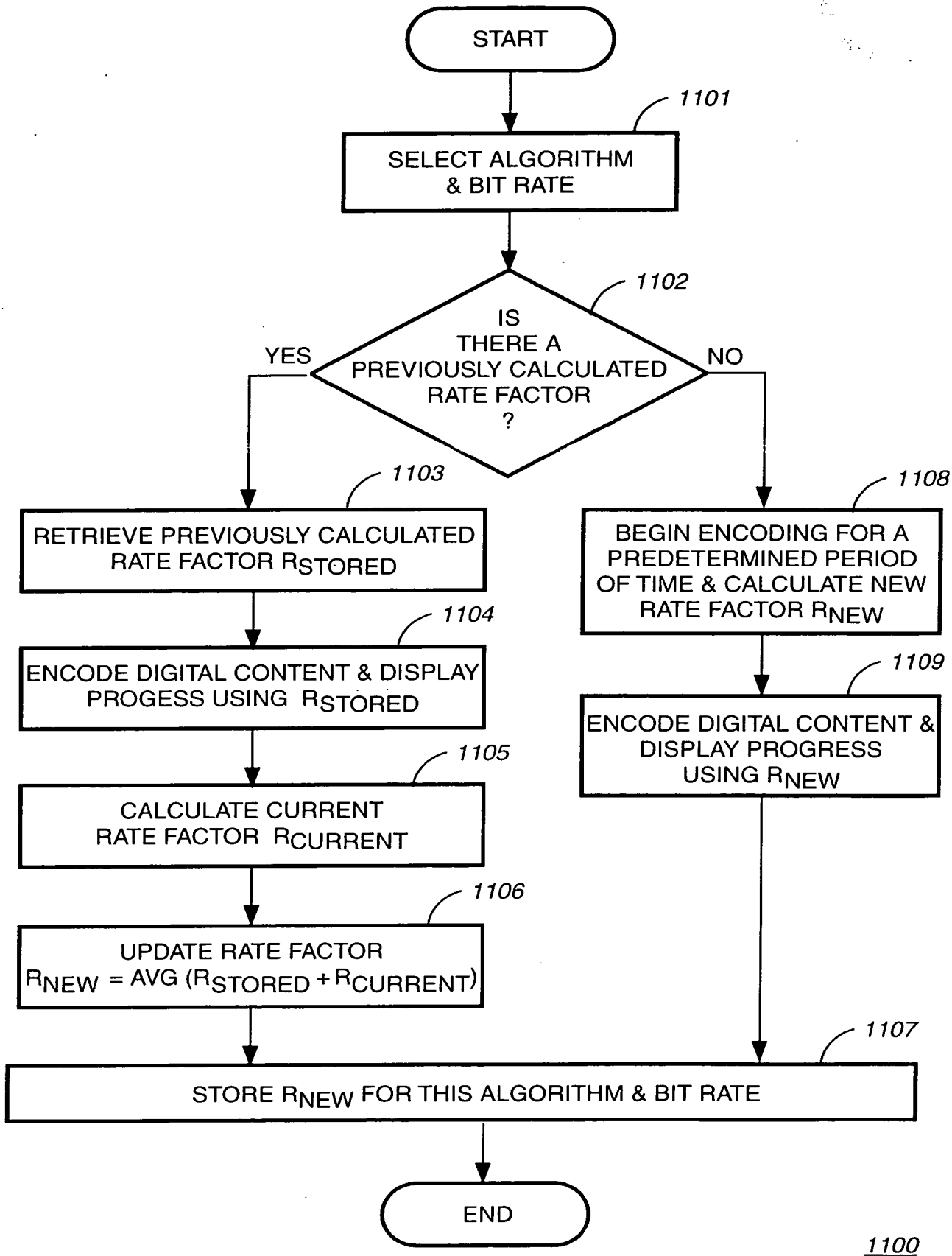

START
1101
SELECT ALGORITHM & BIT RATE
1102
IS THERE A PREVIOUSLY CALCULATED RATE FACTOR ?
YES
NO
1103
RETRIEVE PREVIOUSLY CALCULATED RATE FACTOR R_{STORED}
1104
ENCODE DIGITAL CONTENT & DISPLAY PROGESS USING R_{STORED}
1105
CALCULATE CURRENT RATE FACTOR $R_{CURRENT}$
1106
UPDATE RATE FACTOR $R_{NEW} = AVG (R_{STORED} + R_{CURRENT})$
1108
BEGIN ENCODING FOR A PREDETERMINED PERIOD OF TIME & CALCULATE NEW RATE FACTOR R_{NEW}
1109
ENCODE DIGITAL CONTENT & DISPLAY PROGRESS USING R_{NEW}
1107
STORE R_{NEW} FOR THIS ALGORITHM & BIT RATE
END
1100

FIG. 11

09095564.041702

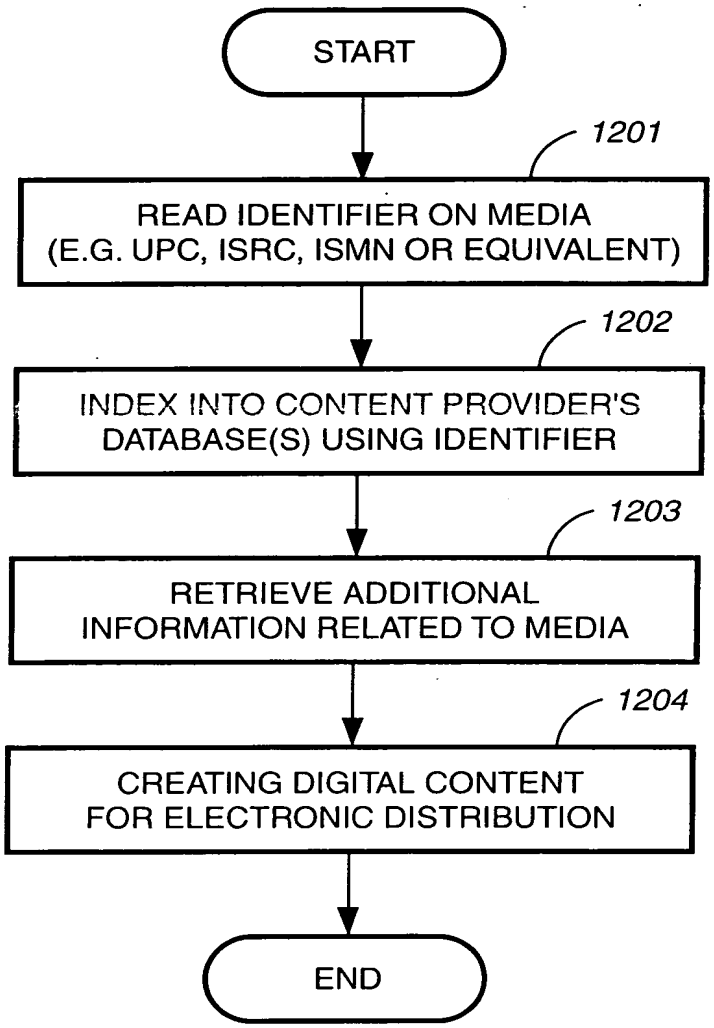


FIG. 12

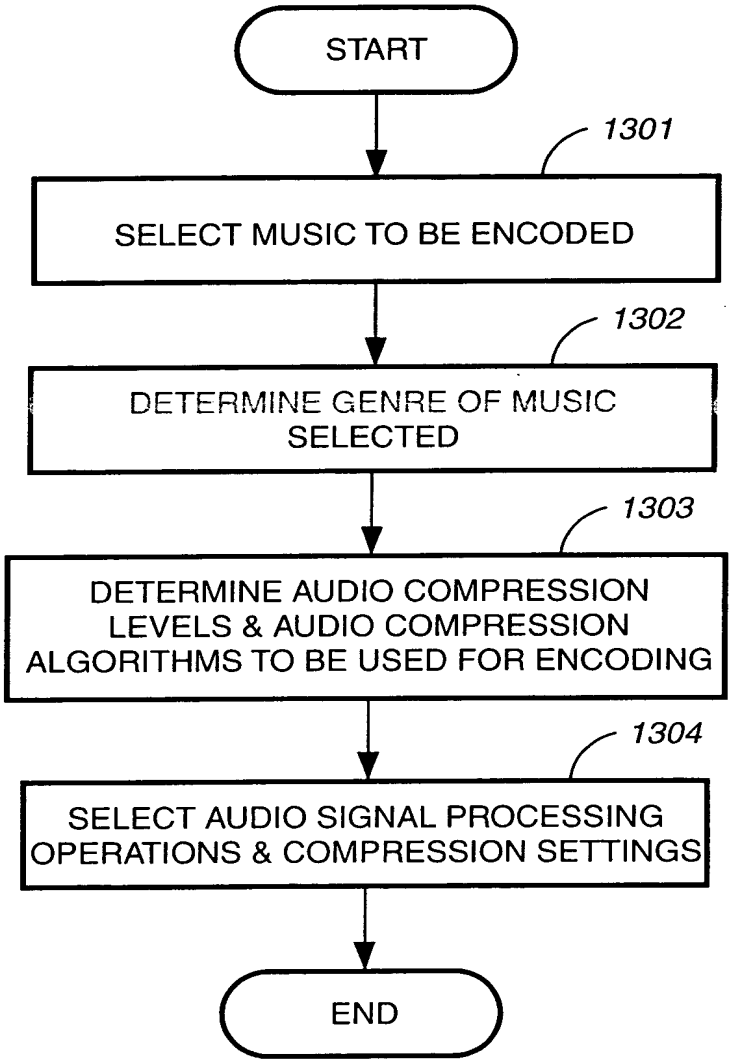
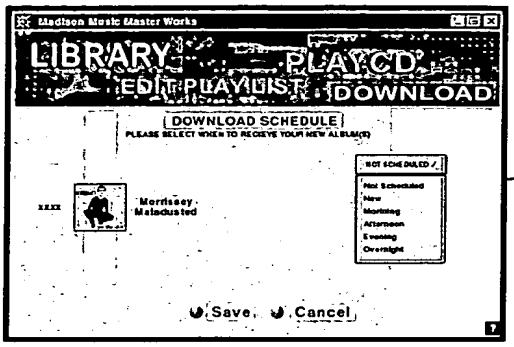

START
1301
SELECT MUSIC TO BE ENCODED
1302
DETERMINE GENRE OF MUSIC SELECTED
1303
DETERMINE AUDIO COMPRESSION LEVELS & AUDIO COMPRESSION ALGORITHMS TO BE USED FOR ENCODING
1304
SELECT AUDIO SIGNAL PROCESSING OPERATIONS & COMPRESSION SETTINGS
END

FIG. 13

09605564 - 051702

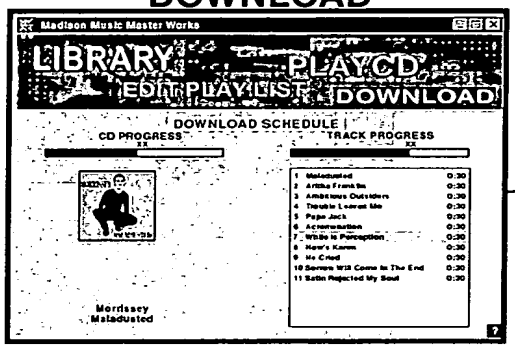
SCHEDULE DOWNLOAD



1401

USER STARTS A DOWNLOAD

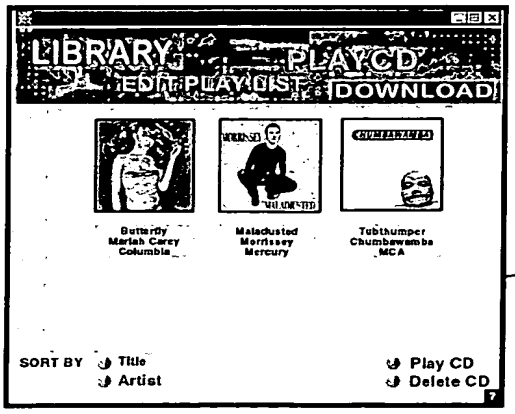
DOWNLOAD



1402

DOWNLOAD COMPLETES

LIBRARY



1403

FIG. 14

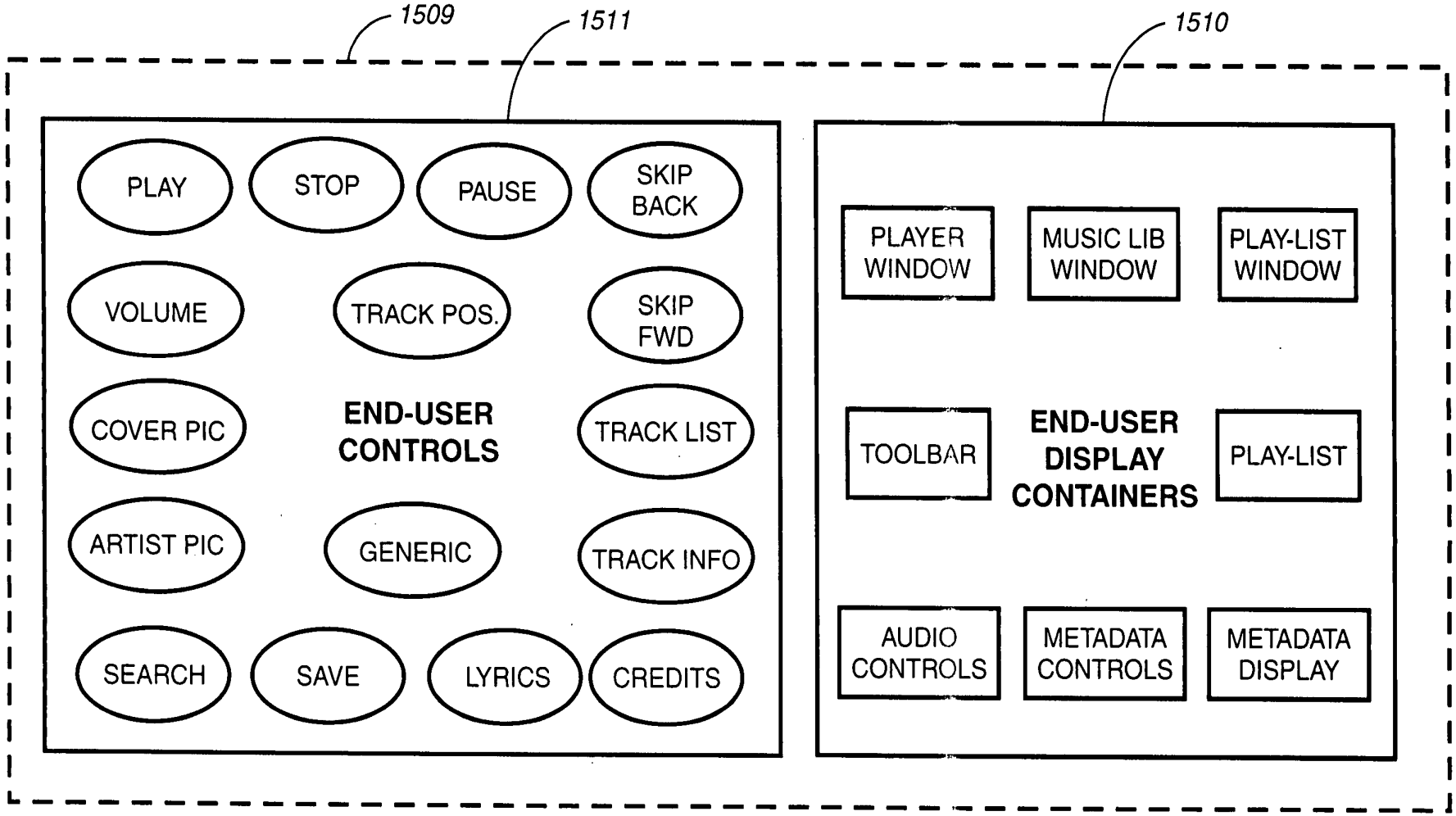

1509
1511
1510
PLAY
STOP
PAUSE
SKIP BACK
VOLUME
TRACK POS.
SKIP FWD
COVER PIC
END-USER CONTROLS
TRACK LIST
ARTIST PIC
GENERIC
TRACK INFO
SEARCH
SAVE
LYRICS
CREDITS
PLAYER WINDOW
MUSIC LIB WINDOW
PLAY-LIST WINDOW
TOOLBAR
END-USER DISPLAY CONTAINERS
PLAY-LIST
AUDIO CONTROLS
METADATA CONTROLS
METADATA DISPLAY

FIG. 15A

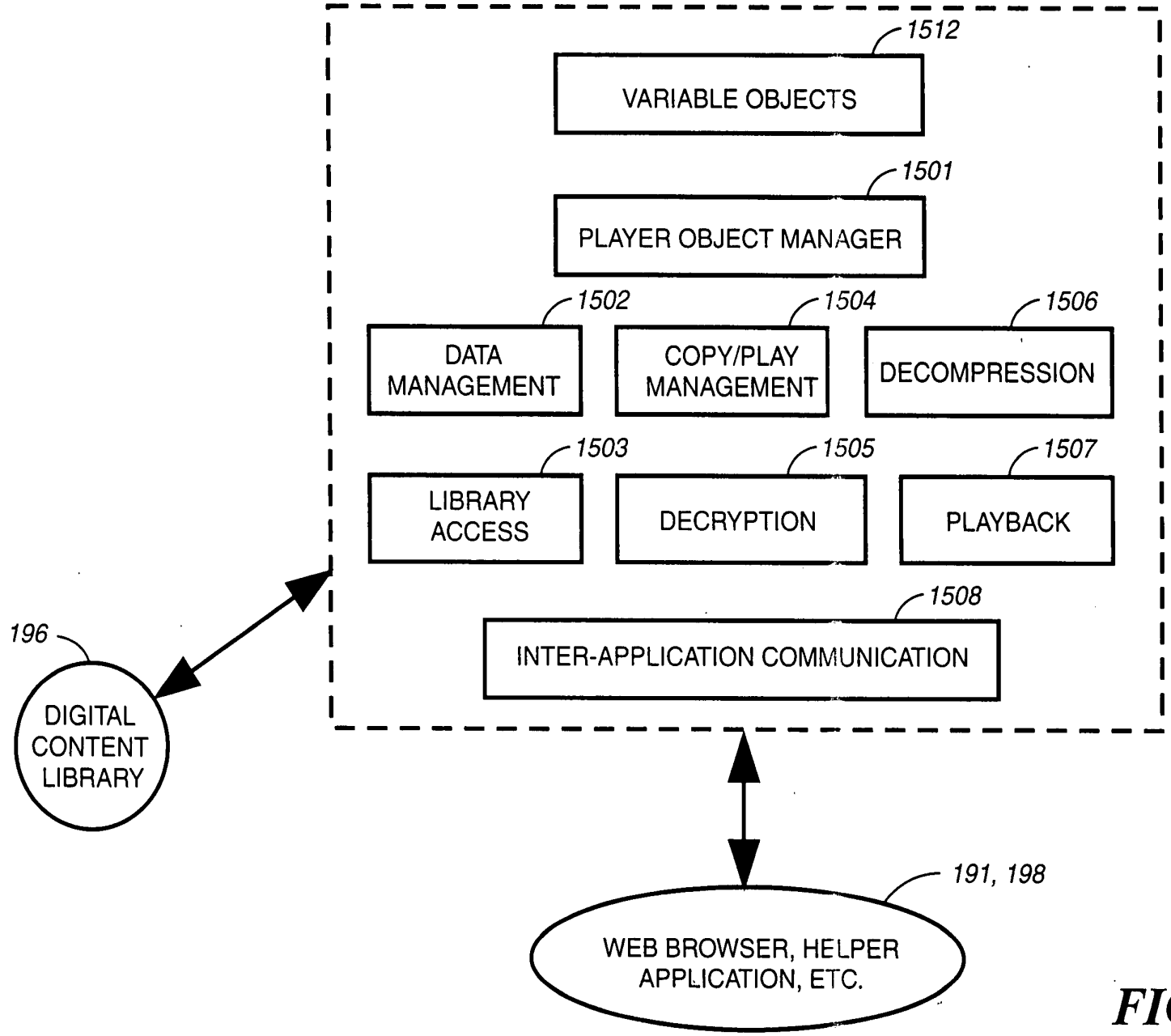

1512
VARIABLE OBJECTS
1501
PLAYER OBJECT MANAGER
1502
DATA MANAGEMENT
1504
COPY/PLAY MANAGEMENT
1506
DECOMPRESSION
1503
LIBRARY ACCESS
1505
DECRYPTION
1507
PLAYBACK
1508
INTER-APPLICATION COMMUNICATION
196
DIGITAL CONTENT LIBRARY
191, 198
WEB BROWSER, HELPER APPLICATION, ETC.

FIG. 15B

20ZTTO"h9560660

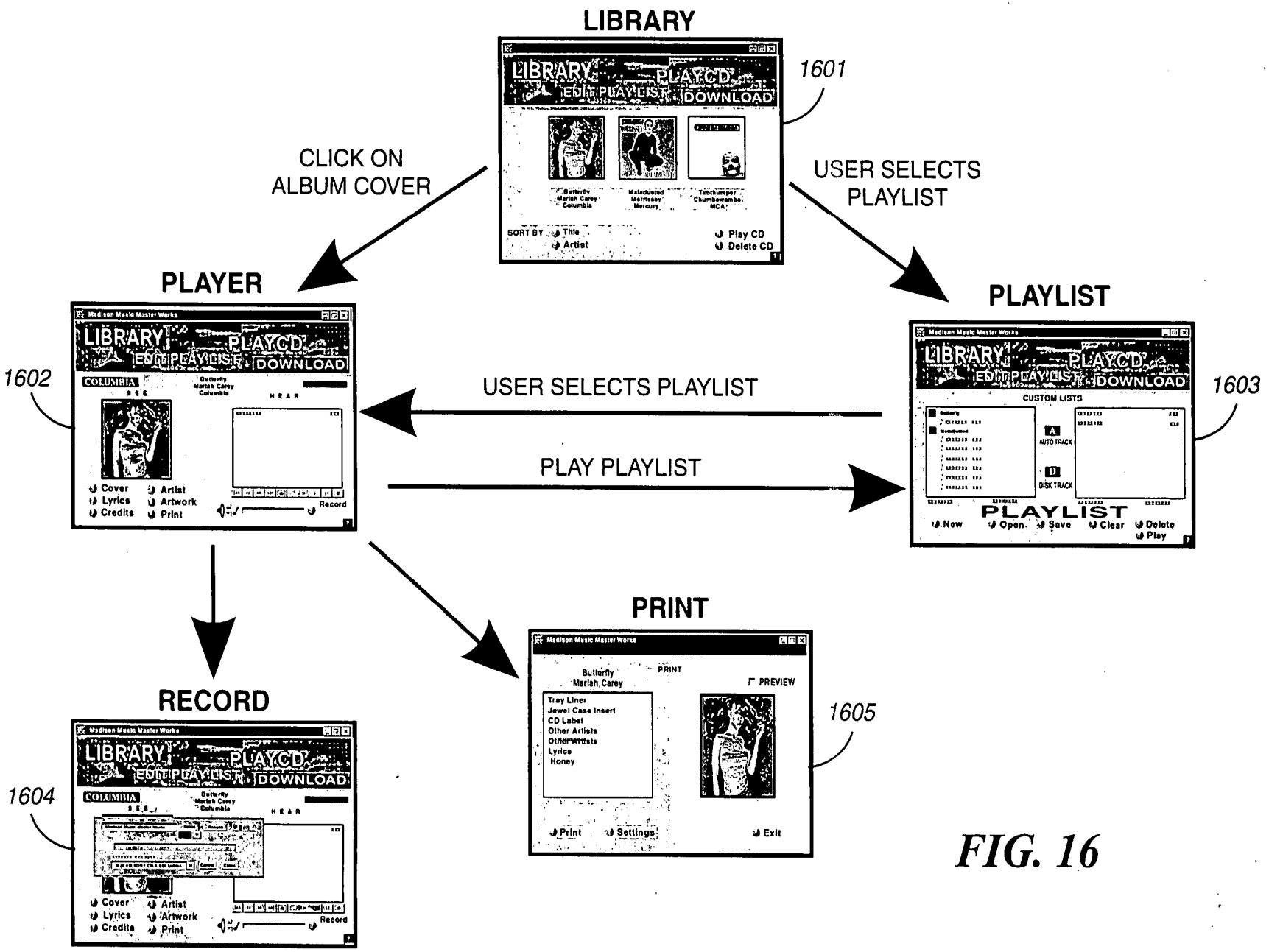
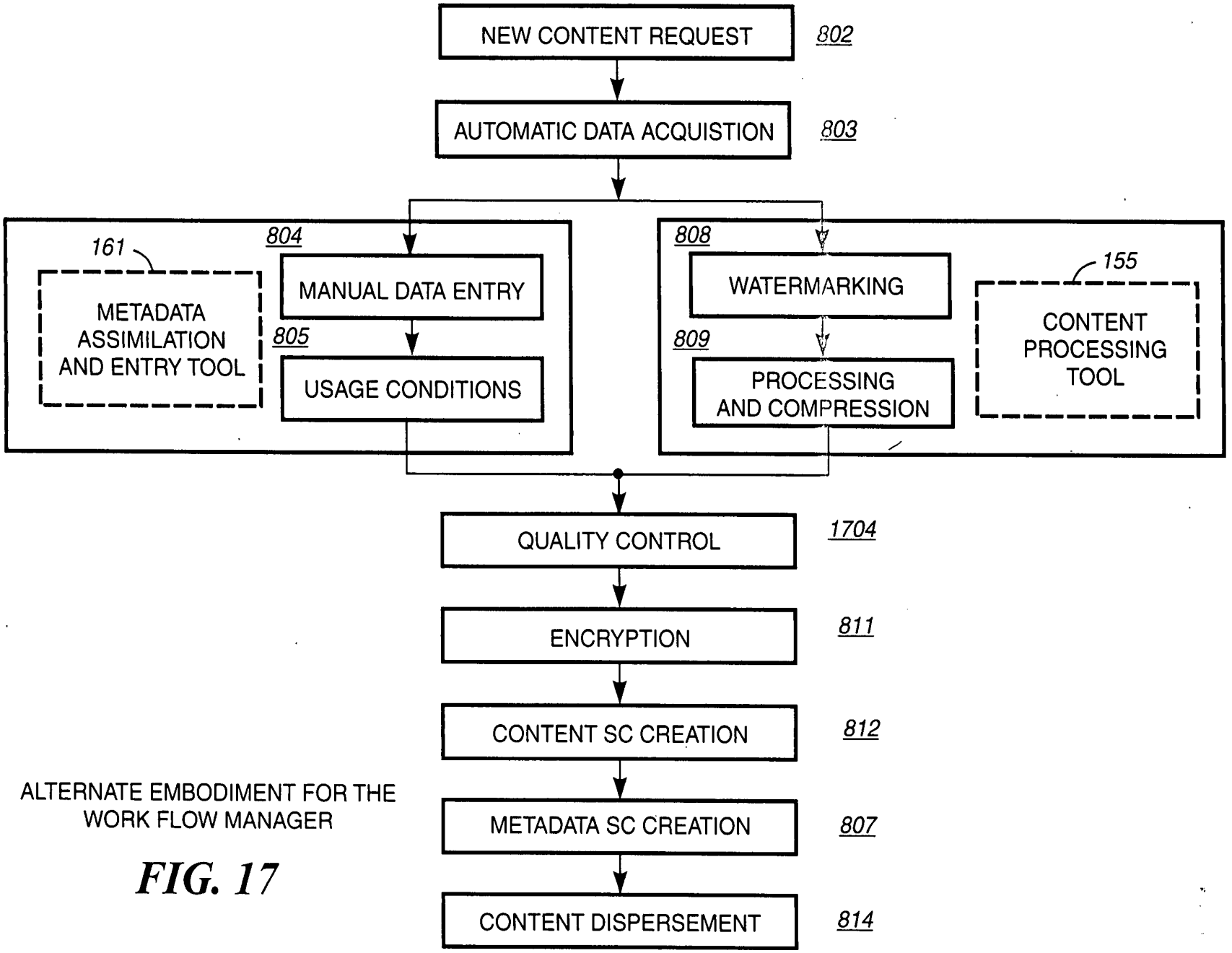


FIG. 16



ALTERNATE EMBODIMENT FOR THE WORK FLOW MANAGER

FIG. 17

20ZTTO"h9560660

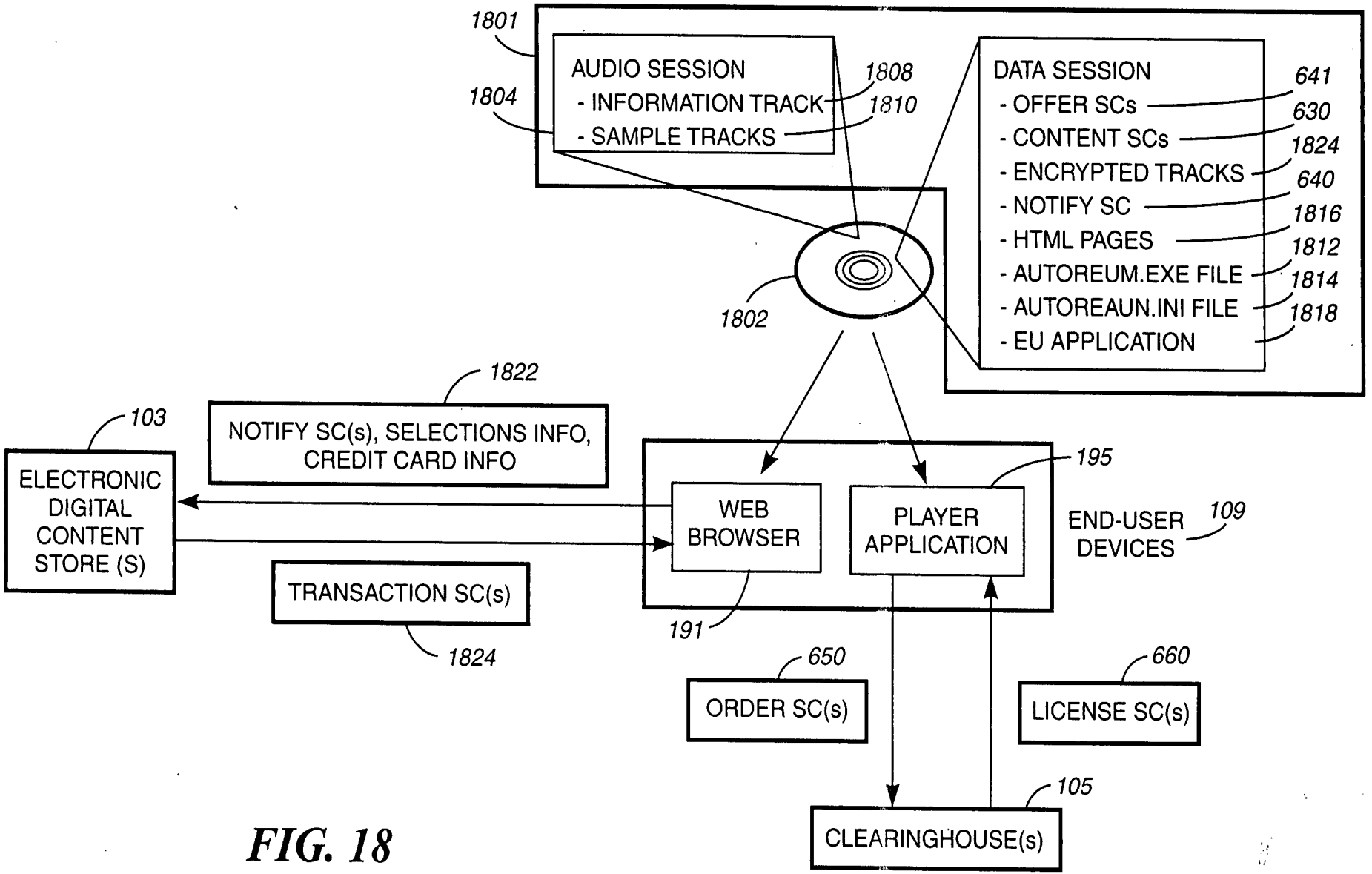


FIG. 18

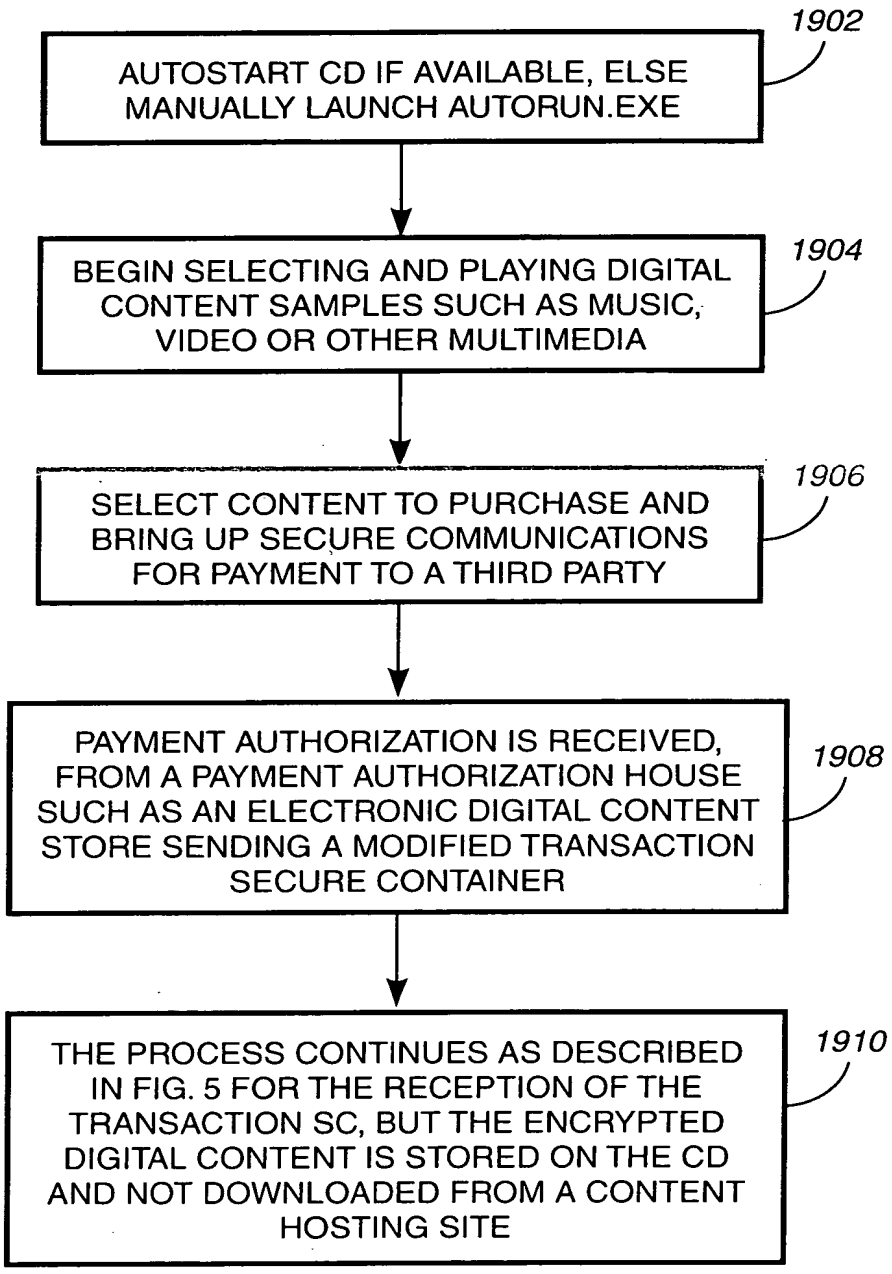

1902
AUTOSTART CD IF AVAILABLE, ELSE MANUALLY LAUNCH AUTORUN.EXE
1904
BEGIN SELECTING AND PLAYING DIGITAL CONTENT SAMPLES SUCH AS MUSIC, VIDEO OR OTHER MULTIMEDIA
1906
SELECT CONTENT TO PURCHASE AND BRING UP SECURE COMMUNICATIONS FOR PAYMENT TO A THIRD PARTY
1908
PAYMENT AUTHORIZATION IS RECEIVED, FROM A PAYMENT AUTHORIZATION HOUSE SUCH AS AN ELECTRONIC DIGITAL CONTENT STORE SENDING A MODIFIED TRANSACTION SECURE CONTAINER
1910
THE PROCESS CONTINUES AS DESCRIBED IN FIG. 5 FOR THE RECEPTION OF THE TRANSACTION SC, BUT THE ENCRYPTED DIGITAL CONTENT IS STORED ON THE CD AND NOT DOWNLOADED FROM A CONTENT HOSTING SITE

FIG. 19

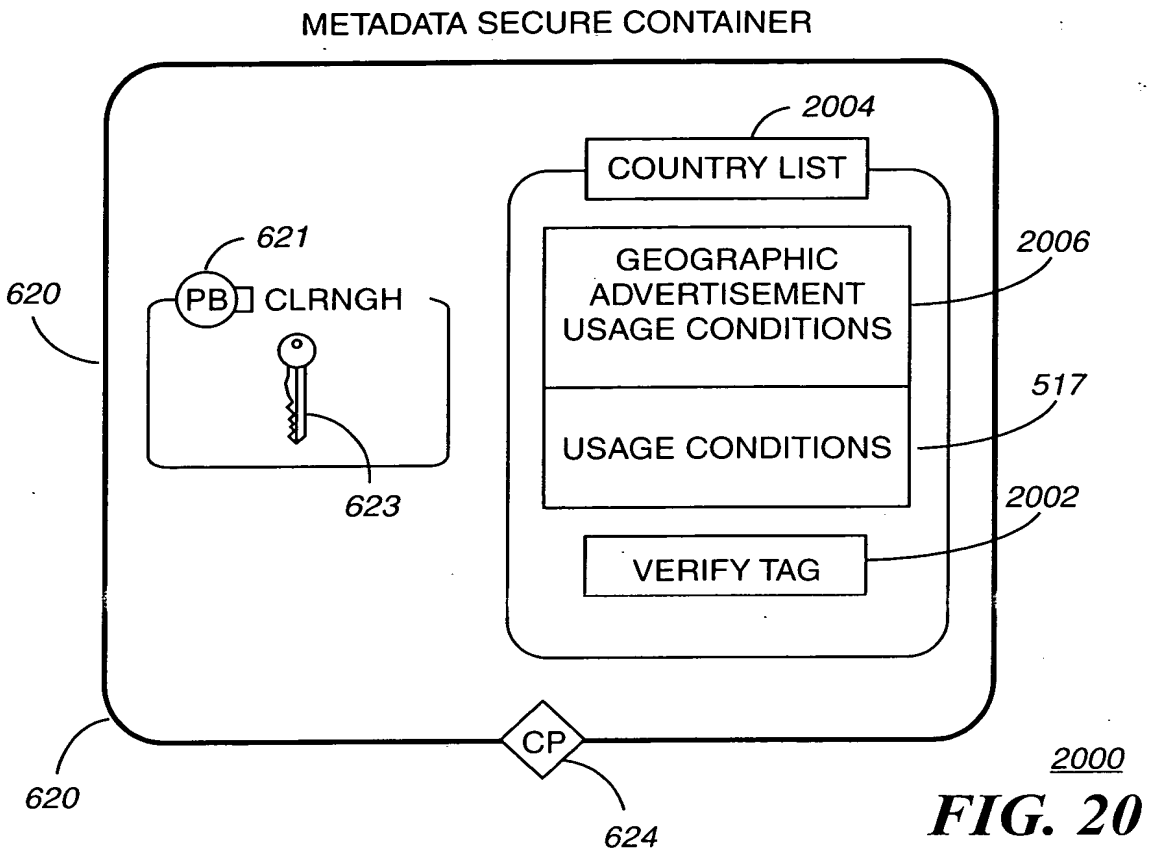

METADATA SECURE CONTAINER
2004
COUNTRY LIST
621
PB
CLRNGH
620
GEOGRAPHIC ADVERTISEMENT USAGE CONDITIONS
2006
USAGE CONDITIONS
517
VERIFY TAG
2002
623
CP
620
624
2000

FIG. 20

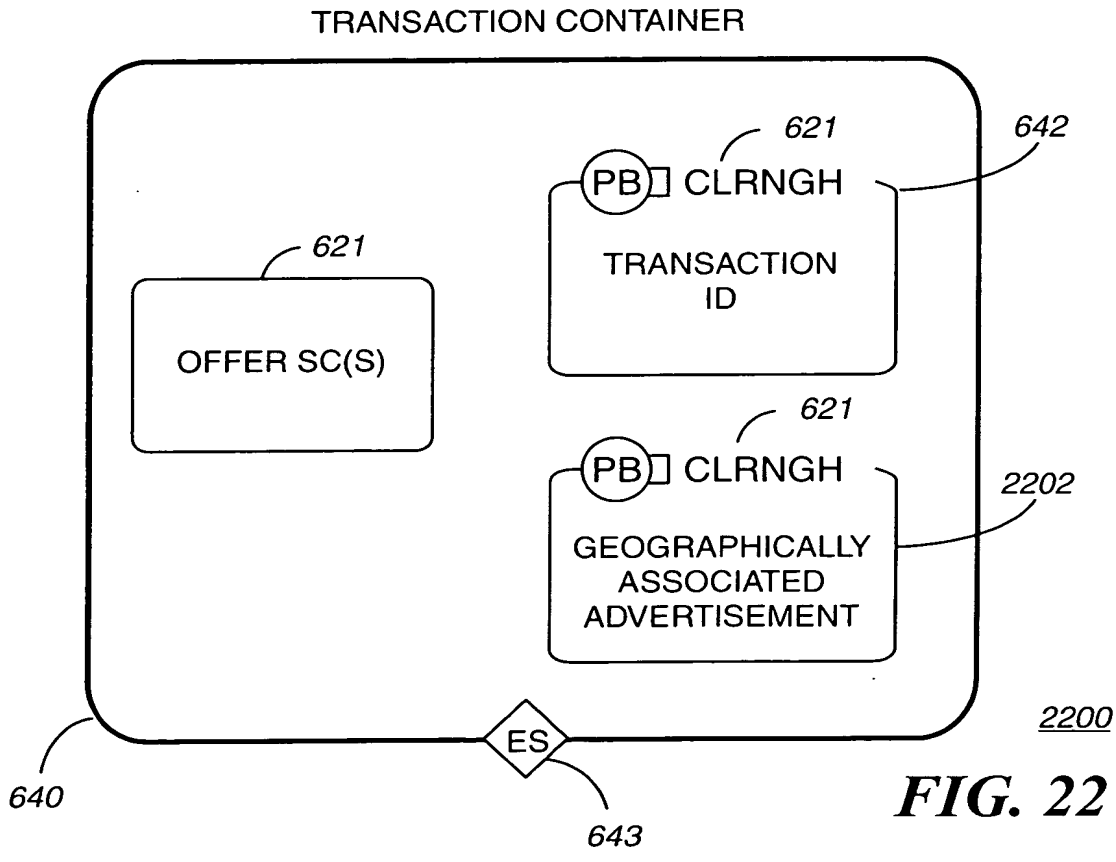

TRANSACTION CONTAINER
621
642
PB
CLRNGH
TRANSACTION ID
621
OFFER SC(S)
621
PB
CLRNGH
2202
GEOGRAPHICALLY ASSOCIATED ADVERTISEMENT
2200
ES
640
643

FIG. 22

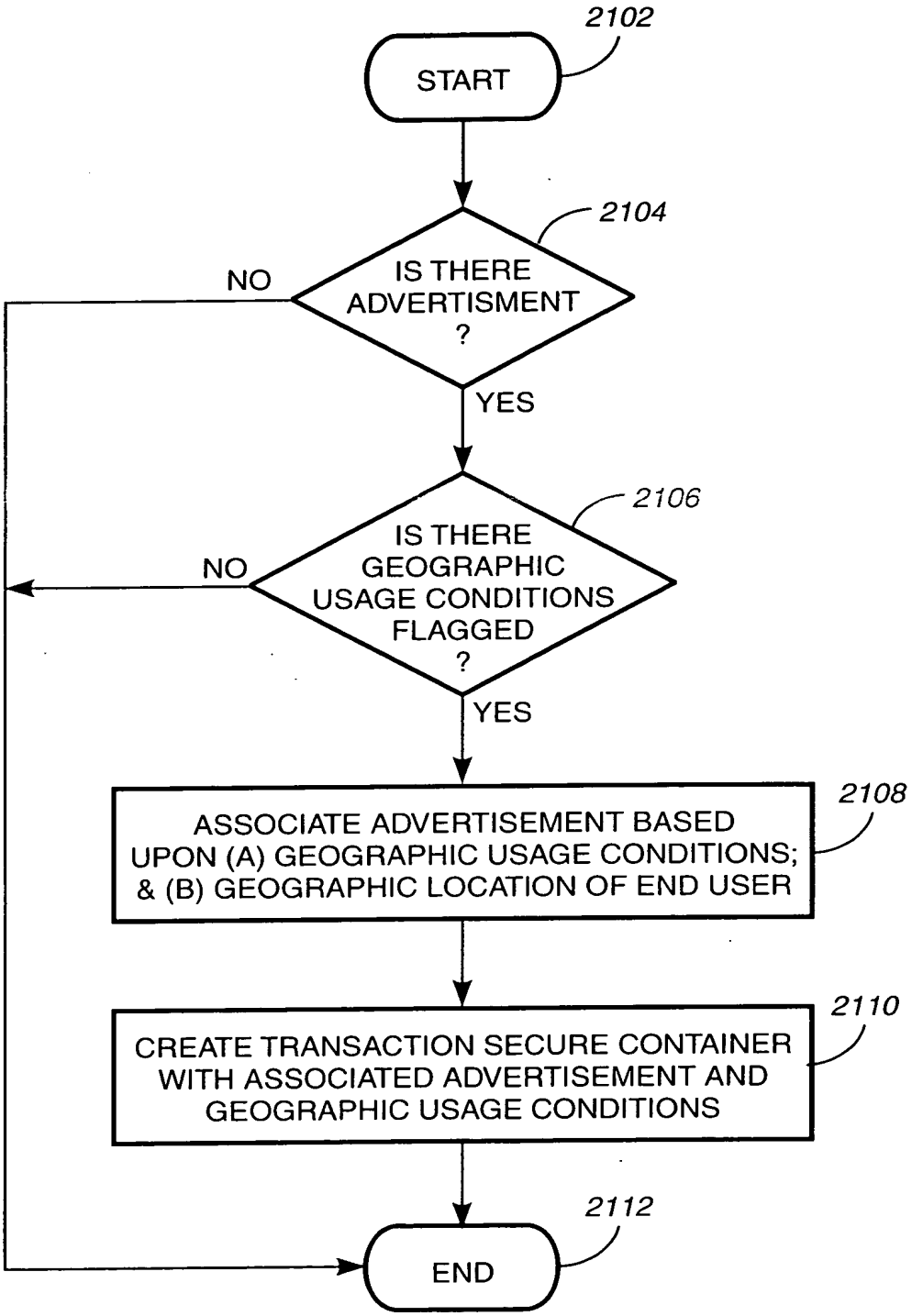

2102
START
2104
IS THERE ADVERTISMENT ?
NO
YES
2106
IS THERE GEOGRAPHIC USAGE CONDITIONS FLAGGED ?
NO
YES
2108
ASSOCIATE ADVERTISEMENT BASED UPON (A) GEOGRAPHIC USAGE CONDITIONS; & (B) GEOGRAPHIC LOCATION OF END USER
2110
CREATE TRANSACTION SECURE CONTAINER WITH ASSOCIATED ADVERTISEMENT AND GEOGRAPHIC USAGE CONDITIONS
2112
END
2100

FIG. 21

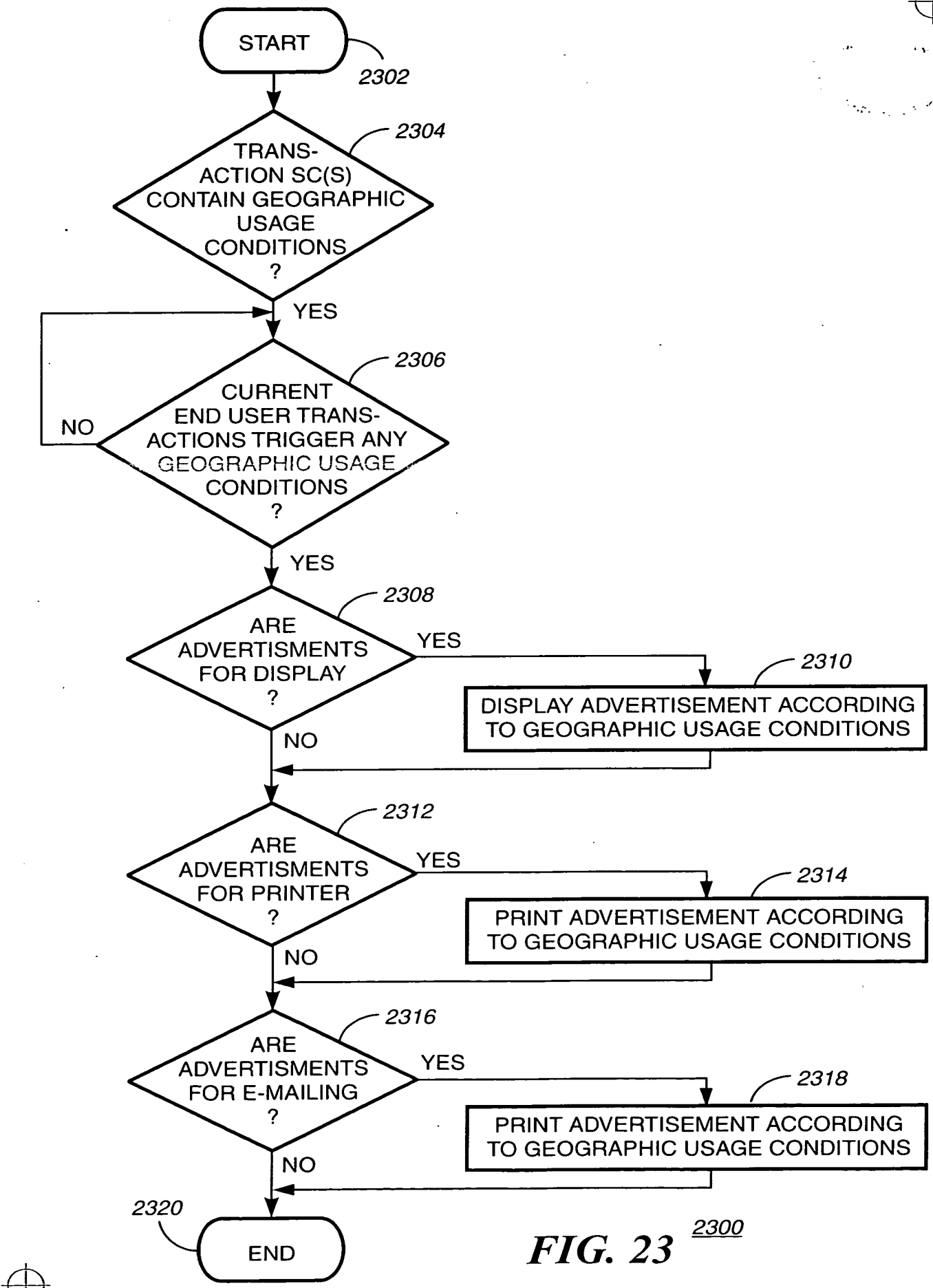

START
2302
TRANS-ACTION SC(S) CONTAIN GEOGRAPHIC USAGE CONDITIONS ?
2304
YES
CURRENT END USER TRANS-ACTIONS TRIGGER ANY GEOGRAPHIC USAGE CONDITIONS ?
2306
NO
YES
ARE ADVERTISMENTS FOR DISPLAY ?
2308
YES
DISPLAY ADVERTISEMENT ACCORDING TO GEOGRAPHIC USAGE CONDITIONS
2310
NO
ARE ADVERTISMENTS FOR PRINTER ?
2312
YES
PRINT ADVERTISEMENT ACCORDING TO GEOGRAPHIC USAGE CONDITIONS
2314
NO
ARE ADVERTISMENTS FOR E-MAILING ?
2316
YES
PRINT ADVERTISEMENT ACCORDING TO GEOGRAPHIC USAGE CONDITIONS
2318
NO
END
2320

FIG. 23 2300